

245402

RECORD OF EXPARTE DISCUSSION

Docket No:	FAA-2000-7909 - 41
Subject of discussion:	Improved Flammability standards for Thermal/Acoustic Insulation materials used in Transport Category Airplanes
Date/Time of Discussion:	April 16 th , 2003 10:55 am
Summary:	<p>On 4/14/03, Mr. Gerald Mack, from the Boeing company, contacted Messer David Mandell and Bobby Sturgell at the FAA on the subject of the Insulation Blankets final rule coming out of OMB on 4/8/03.</p> <p>4/16/03, Mr. Sturgell contacted Mr. Mack on this subject. During the discussion, Gerald Mack, representing the Boeing Company, expressed the following concerns about the rule:</p> <ol style="list-style-type: none">1. The cost is high. There was frustration that per the OMB website the rule was not considered economically significant.2. That the rule was prescriptive in nature - i.e. that it calls for how to comply. Most rules are performance based.3. The fact that the only material that has been shown to meet the requirements is much heavier than the existing material and will add weight to the airplane. Additionally, it is more difficult to use in the manufacturing process and would thus add cost.4. That this action does not fit the approach the FAA has taken under Safer Skies and that this action, with its higher costs would take away from resources that could be used on high causes of accidents. <p>In the conversation there was reference to the fact that more needs to be done to come up with a better solution. And that Boeing would like to see a re-opening of the matter to make sure we are all doing the right thing, rather than having to come in later and show that Boeing's comments during the NPRM stage were ignored.</p> <p>As a result of the meeting, Bobby indicated that he would discuss this matter with Mr. Hickey to determine the next steps.</p>

Record of Meeting

Subject: FAA Final Rule on Improved Flammability Standards for Thermal/Acoustic Insulation Materials, RIN 2120-AG91

Date: 5/20/2003

Location: FAA Headquarters

Participants:

Jerry Mack	Boeing Commerical Aircraft	Nick Sabatini	FAA-AVR
Tim Foley	Boeing Commerical Aircraft	Peggy Gilligan	FAA-AVR
Jim Bouey	Boeing Commerical Aircraft	John Hickey	FAA-AVR
Jeff Hawk	Boeing Commerical Aircraft	Tony Fazio	FAA-AVR
Web Heath	Boeing Commerical Aircraft	Vi Lipski	FAA-AVR
		Jeff Gardlin	FAA-AVR
		Lirio Liu	FAA-AVR

At the Request of Boeing Commercial Aircraft represenatives from the FAA met with individuals from Boeing to hear their presentation on "Insulation Blanket Flammability NPRM, Issues with the Proposal." FAA listened to the proposal and engaged in no discussion of the materials presented. A copy of the presentation is included in this docket.

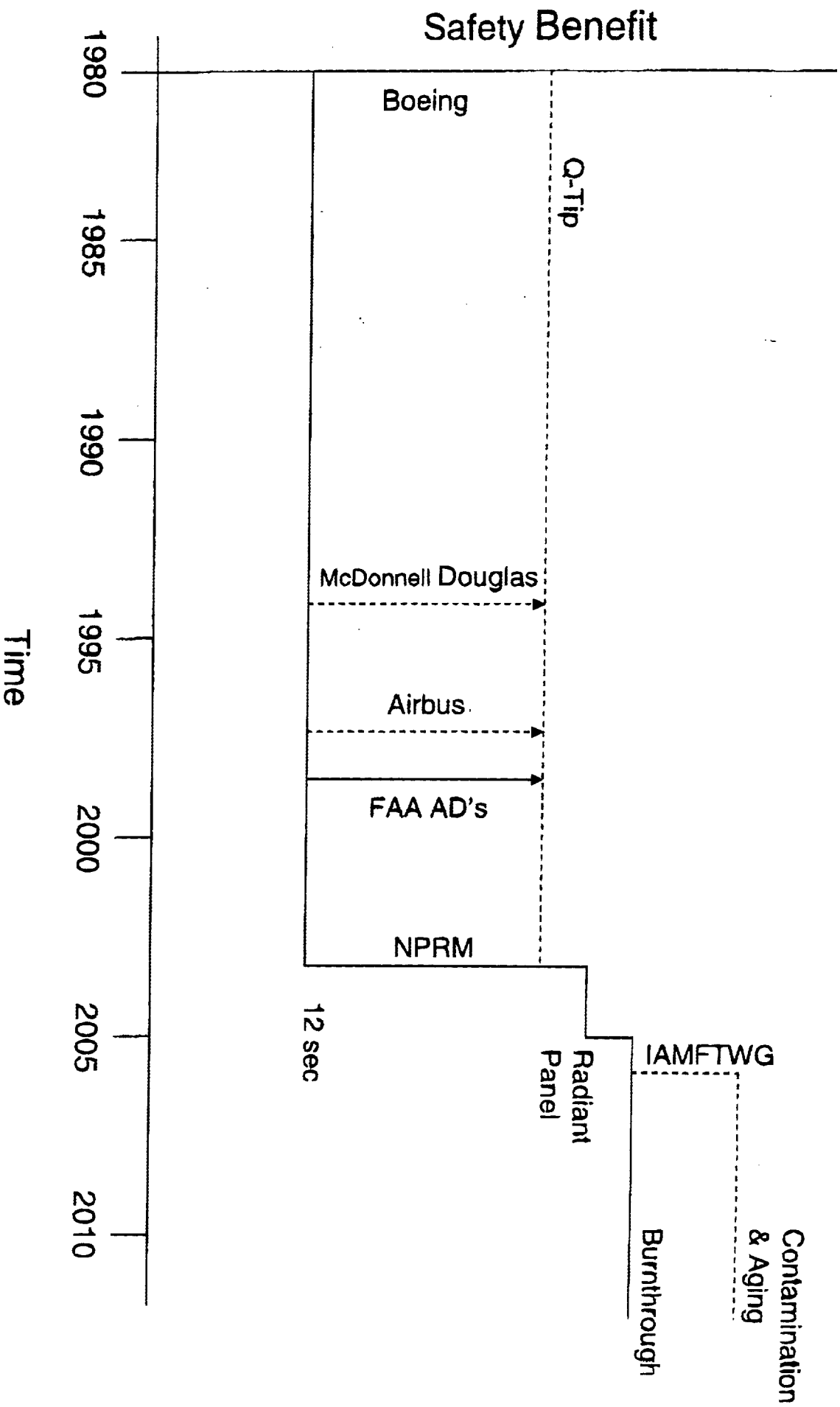
Insulation Blanket Flammability NPPM

Issues with the Proposal

Issue Summary

- Flammability
 - Do need to upgrade existing rule
 - Many technical issues with proposed rule
 - Very little benefit for existing type designs
- Burn-through
 - Not justified by existing safety analysis
 - Prescribes a solution instead of setting a performance requirement

Insulation Blanket Flammability Benefit Assessment



Technical Issues With the Proposed Flammability Rule

- No small parts exclusion*
- Test Pass/Fail criteria applicability to average results clarification*
- After 3 years, still no closure on round-robin test repeatability for radiant panel – procedure still in development*
- No limitation to materials used in the pressure vessel only*
- No definition of “insulation materials” that constrains application of the standards to only the blanket installations (cabin sidewall liners, ceiling liners, floors, carpets, seats, window liners)*
- No replacement material discovered that meets new flammability requirement and does not aggravate cost, weight, producibility requirements to date

*as submitted by AIA and AECMA during NPRM comment period

Other Issues With the Proposed Flammability Rule

- Requiring implementation on existing type designs adds very little risk reduction and forces part number rolls for tens of thousands of in-production parts to maintain configuration control for parts changed to comply with new regulations (ISO 9000)* (Leaving retrofit and current production implementation voluntary allows us to make a material specification change and will not require the tens of thousands of part numbers to change.)
- FAA offers to develop different “work-arounds” to accommodate industry’s issues with the rule will need to be done every time, while a proper clean-up of the rule will need to be done once.

*as submitted by AIA and AECMA during the NPRM comment period

Cost Impacts for Current Production For Flammability

- Flammability
 - Non-Recurring
 - Part number roll (Engineering, Planning, Tooling, Release, Supplier contracts, Technical Publications)
 - Laboratory equipment and qualification
 - Recurring
 - Material
 - Fabrication
 - Weight

Values provided by OEMs to FAA during NPRM comment period and to OMB

Benefits for Burn-through Proposed Rule

The FAA safety analysis significantly overstates the possible benefits of the burn-through proposal

FAA Safety Benefit Analysis

Questionable Assumptions

- Worldwide accident statistics are a valid predictor of U.S. accidents
 - Of the 175 lives (median value) predicted to be saved worldwide in the 27 years studied, only 8 are related to the two U.S. accidents, and 7 were from a 31 year old accident
- Flaws in worldwide statistics – lives saved
 - Old data
 - 17% were on airplane types not covered by the rule
 - 23% as a result of the Manchester accident, which would not have happened in the U.S. because of different maintenance practices
 - Benefits were escalated 1.84 times based on FAA assumption that accidents with insufficient survival data would have benefits proportional to the accidents studied

FAA Safety Benefit Analysis

Questionable Assumptions

- U.S. air carrier fatal accident rate was reduced 50% between 1990 and 1998
- FAA goal is to reduce 1997 fatal accident rate by a factor of 5 before 2007, and they are on track towards that goal
- This ever reducing accident rate from Safer Skies/CAST has to be accounted for in the FAA safety analysis, including beyond 2007
- Safer Skies/CAST efforts are directed toward eliminating the type of survivable accidents where post-crash fires have occurred - further decreasing any benefits
- FAA assumed the number of lives possibly saved by the rule would increase 50% by 2019 because of increased operations. This is inconsistent with FAA goals of reduced accident rate.

Technical Issues with the Proposed Burn-through Rule

- No useable definition of where the “lower half” of the fuselage is located*
- Structure supporting the burn-through preventing insulation blankets will not survive the specified fire condition*
- Rule dictates a design solution requiring that insulation blankets be used to prevent burn-through in lieu of any other approach*

* as submitted by AIA and AECMA during the NPRM comment period

Other Issues With the Proposed Burn-through Rule

- This rule will require a never-ending series of Equivalent Safety findings to accommodate evolving technology and design solutions

Cost Impacts for Current Production For Burn-through

- Burn-through
 - Non-recurring
 - Redesign (Engineering, Release, Planning, Tooling, Supplier contracts, Technical Publications)
 - Laboratory equipment and qualification
 - Recurring
 - Materials
 - Fabrication
 - Installation
 - Weight

Values submitted to FAA during NPRM comment period and to OMB

Recommendations

- **Flammability**
 - Issue Rule to apply to new type designs only
 - Preamble to address:
 - Small parts exclusion
 - Test criteria applied to average results
 - Applicability to thermal-acoustic blanket assemblies in the pressure vessel only
- **Burn-through**
 - Redo the FAA safety benefit and cost analysis
 - Reword the rule to be performance based rather than solution based
 - Apply to new type designs only
 - Place in the docket and reopen the comment period for 120 days
 - Preamble to address:
 - Definition of “lower half” of fuselage